

REMARKS

Summary of the Office Action

Claims 1-4, 6-14, 17, 18, 20, and 21 are rejected under 35 U.S.C. §102(b) as being anticipated by Nakajima (US 6,420,758).

Claims 12-17 are rejected under 35 U.S.C. §102(b) as being anticipated by Nakajima.

Claims 1-10, 12-14, 17, and 20 are rejected under 35 U.S.C. §102(a), as being anticipated by Yamazaki et al. (US 6,512,271).

Summary of the Response to the Office Action

Applicant has amended claims 1, 6-8, 10, and 12 to further define the invention and to improve form, and canceled claims 22-50 without prejudice or disclaimer. Accordingly, claims 1-14, 17, 18, 20, and 21 are pending for further consideration, and claims 15, 16, and 19 have been withdrawn by the Examiner.

All Claims Define Allowable Subject Matter

Claims 1-4, 6-14, 17, 18, 20, and 21 are rejected under 35 U.S.C. §102(b) as being anticipated by Nakajima (US 6,420,758), claims 12-17 are rejected under 35 U.S.C. §102(b) as being anticipated by Nakajima, and claims 1-10, 12-14, 17, and 20 are rejected under 35 U.S.C. §102(a), as being anticipated by Yamazaki et al. (US 6,512,271). Applicant respectfully traverses these rejections as being based upon references that neither teach nor suggest the novel combination of features recited by independent claims 1, 10, and 12, and hence dependent claims 2-9, 11, 13, 14, 17, 18, 20, and 21.

Initially, Applicant respectfully requests clarification regarding the use of Nakajima to rejection claims 1-4, 6-18, 20, and 21. Specifically, the Office Action indicates, on page 2, that “[c]laims 1-4, 6-14, 17, 18, 20, and 21 are rejected under 35 U.S.C. §102(b) as being anticipated by Nakajima (US 6,420,758),” whereas the body of the rejection identifies features allegedly disclosed by Kawachi et al. Accordingly, Applicant respectfully requests clarification in the next Communication from the Office regarding whether Kawachi et al. or Nakajima is cited as allegedly anticipating the features of claims 1-4, 6-14, 17, 18, 20, and 21.

For purposes of responding to the Office Action, Applicant has presumed that [c]laims 1-4, 6-14, 17, 18, 20, and 21 are rejected under 35 U.S.C. §102(b) as being anticipated by Kawachi et al. (US 6,559,906), and not Nakajima.

Independent claim 1, as amended, recites a thin film transistor including, in part, a second gate electrode “having a first portion disposed on an uppermost surface of the first gate electrode and extending substantially parallel to the substrate and second portions having substantially uniform thickness disposed along opposing sidewalls of the first gate electrode and extending substantially perpendicular to the substrate,” wherein “a thickness of the second portions of the second gate electrode are substantially equal to a width of the low-density impurity regions and terminal ends of the second portions of the second gate electrode directly contact the gate insulating layer and are substantially parallel to the substrate.” Similarly, independent claim 10, as amended, recites a liquid crystal display device including, in part, thin film transistors having a first gate electrode and a second gate electrode, “wherein the second gate electrode has a first portion disposed on an uppermost surface of the first gate electrode and extending substantially

parallel to the substrate and second portions having substantially uniform thickness disposed along opposing sidewalls of the first gate electrode and extending substantially perpendicular to the substrate,” and “wherein a thickness of the second portions of the second gate electrode are substantially equal to a width of the low-density impurity regions and terminal ends of the second portions of the second gate electrode directly contact the gate insulating layer and are substantially parallel to the substrate.” Likewise, independent claim 12, as amended, recites a liquid crystal display device including, in part, a second thin film transistor having first and second layers of gate electrodes, “wherein the first layer of the gate electrodes...includes a first portion disposed on an uppermost surface of the first layer and extending substantially parallel to the substrate and second portions having substantially uniform thickness disposed along opposing sidewalls of the first layer and extending substantially perpendicular to the substrate,” and “wherein a thickness of the second portions of the second layer are substantially equal to a width of the low-density impurity regions and terminal ends of the second portions of the second layer directly contact the gate insulating layer and are substantially parallel to the substrate.”

In contrast to Applicant’s claimed invention, all of Kawachi et al., Yamazaki et al., and Nakajima explicitly teach gate electrode structure such that an upper layer extends from sidewall regions of a lower layer. Specifically, Applicant respectfully asserts that Kawachi et al. explicitly discloses in FIG. 1, for example, an upper gate electrode layer 11 having portions that extend along the gate insulating film 20 to overlie the LDD regions 310, that Yamazaki et al. explicitly discloses in FIGs. 1A-1C, for example, an upper gate electrode layer 115 having portions that extends along the gate insulating film 112 to overlie the LDD regions 103/104, and that Nakajima

explicitly disclosed in FIGs. 1A and 1B, for example, an upper gate electrode layer 115 having portions L3 and L4 that extend along the gate insulating film 112 to overlie the LDD regions 103/104.

Applicant respectfully asserts that none of Kawachi et al., Yamazaki et al., and Nakajima teaches or suggests the combination of features recited by amended independent claims 1, 10, and 12. Specifically, Applicant respectfully asserts that each of the gate electrode structures disclosed by Kawachi et al., Yamazaki et al., and Nakajima include a second electrode layer that has a “foot” portion that extends along the gate insulating layer away from the opposing sidewalls of the first gate electrode layer. Moreover, each of the gate electrode structures disclosed by Kawachi et al., Yamazaki et al., and Nakajima include a second electrode layer having terminal ends that are perpendicular to the substrate and not “parallel to the substrate,” as required by amended independent claims 1, 10, and 12.

For the above reasons, Applicant respectfully asserts that the rejections under 35 U.S.C. §§ 102(a) and 102(b) should be withdrawn. Furthermore, Applicant respectfully submits that dependent claims 2-9, 11, 13, 14, 17, 18, 20, and 21 are allowable, at least because of their dependence on independent claims 1, 10, and 12, and for the additional features that they recite. In addition, Applicant respectfully asserts that claims 15, 16, and 19 should be rejoined and allowed due to their dependence upon allowable claim 12.

CONCLUSION

In view of the foregoing, Applicant requests the entry of this Amendment to place the application in clear condition for allowance or, in the alternative, in better form for appeal.

Should the Examiner feel that there are any issues outstanding after consideration of the response, the Examiner is invited to contact the Applicant's undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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